

Name: _____

Date: _____

8.EE.1

_____1. Simplify: $\frac{4^8}{4^{-4}}$ (2013 8.EE.1)

- A. 4^{-32} B. 4^{-2} C. 4^4 D. 4^{12}

_____2. Which expression is **not** equivalent to $\frac{6^3}{6^6}$? (2013 8.EE.1)

- A. $\frac{1}{6^2}$ B. 6^{-3} C. $\frac{1}{216}$ D. $\frac{1}{6^3}$

_____3. Which number is equivalent to $\frac{3^4}{3^2}$? (2014 8.EE.1)

- A. 2 B. 9 C. 81 D. 729

_____4. Which expression is equivalent to $4^7 \times 4^{-5}$? (2014 8.EE.1)

- A. 4^{12} B. 4^2 C. 4^{-2} D. 4^{-35}

_____5. Which exponential expression is equal to $2^{-5} \cdot 2^8$? (no calculator) (2015 8.EE.1)

- A. $\frac{2^2}{2^{-1}}$ B. $(2^3)^{-1}$ C. $\frac{2^{-2}}{2^{-1}}$ D. $(2^{-1})^3$

_____6. Simplify: $5^{-8} \times 5^4$? (no calculator) (2016 8.EE.1)

- A. $\frac{1}{5^4}$ B. $\frac{1}{5^{32}}$ C. -5^2 D. -5^{12}

_____7. What is the value of n in the equation shown below? (2017 8.EE.1) no calculator

$$2^2 * 2^n = (2^4)^3$$

- A. 5 B. 6 C. 10 D. 12

____8. Which expression is equivalent to $2^2 * \frac{2}{2^4}$? (2017 8.EE.1)

- A. 2^{-2} B. 2^{-1} C. 2^6 D. 2^7

____9. Which expression is equivalent to $(7^{-8})(7^3)$? (2019 8.EE.1)

- A. 49^{-5} B. 49^{-11} C. 7^{-5} D. 7^{-11}

____10. Which expression is equivalent to $(5^{-2})^5 x 5^4$? (2019 and 2021 8.EE.1)

- A. 5^{12} B. 5^7 C. $\frac{1}{5^6}$ D. $\frac{1}{5^{40}}$

____11. Which expression is equivalent to $(15^3)(15^{-7})$? (2022 8.EE.1)

- A. 15^{-21} B. -15^4 C. $\frac{1}{15^4}$ D. $\frac{1}{15^{-4}}$

____12. Which expression is equivalent to $4^{-5} x 4^8$? (2022 8.EE.1)

- A. $\frac{4^{-2}}{4^{-1}}$ B. $(4^3)^{-1}$ C. $\frac{4^2}{4^{-1}}$ D. $(4^{-1})^3$

13. Jude incorrectly simplified the expression $\left(\frac{1}{2}\right)^2 \times \frac{1}{2} \times \left(\frac{1}{2}\right)^3$, as shown below. (2016 8.EE.1)

$$\left(\frac{1}{2}\right)^2 \times \frac{1}{2} \times \left(\frac{1}{2}\right)^3 = \left(\frac{1}{8}\right)^6 = \frac{1}{262,144}$$

Describe the mistake that Jude made.

Answer
